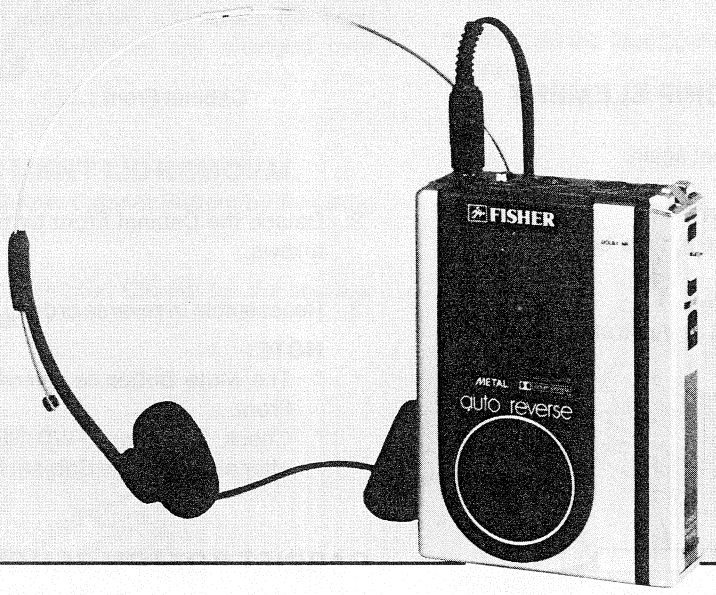
SERVICE MANUAL

FISHER

PH 35

Stereo Mini Cassette Player



THE FIRST NAME IN HIGH FIDELITY

SPECIFICATIONS

Power Source
- DC 3V
- (UM-3, HP 7, AA Cell, Mignonzelle, R 6) x 2

Output Power
- Headphones ..... 25mW x 2 (Max.)
- Speaker ..... 220mW (Max.)

Current Consumption (at Vol. Min.)
- Playback mode 110mA
- Fast Forward mode 140mA
- Rewind mode 140mA

Tape Speed ..... 1-7/8ips. ±3%
Fast Forward Time (with C-60) ..... 150sec. (Approx.)
Rewind Time (with C-60) ..... 150sec. (Approx.)
Torque
- Playback ..... 27 ~ 47g-cm
- Fast Forward ..... more than 40g-cm
- Rewind ..... more than 40g-cm

Wow & Flutter ..... 0.5% (RMS)
Frequency Response (Playback, DOLBY: OFF)
- Headphones
  - Fe_2O_3 ..... 50 ~ 14,000Hz
  - Metal ..... 50 ~ 16,000Hz
- Speaker (with Fe_2O_3) ..... 250 ~ 6,300Hz

Signal to Noise Ratio (DOLBY: OFF)
- Fe_2O_3 ..... more than 45dB
- Metal ..... more than 48dB

Crosstalk (with Fe_2O_3)
- Track to Track ..... more than 55dB

Channel Separation (with Fe_2O_3) ..... more than 35dB
Hum & Noise (at Vol. Min.) ..... −70dBs
Terminal Impedance
- Headphones 32Ω

Dimensions (W x H x D) ..... 81(W) x 109(H) x 30(D) mm
Weight (with Batteries) ..... 300g (Approx.)

–Specifications subject to change without notice.–

DISASSEMBLY INSTRUCTIONS

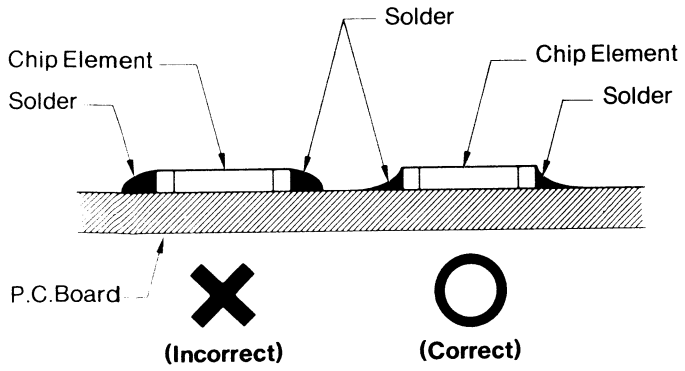
GENERAL REMARKS

- Before disassembling the unit, spread a soft rubber mat or a cloth on the workbench to avoid scratches and grease stains.
- Do not spread anything which is likely to cause static electricity because transistors and ICs may be easily damaged by it.
- Reassemble the unit, noting the kinds of screws and the soldering and arrangement of the leads. Refer to "Circuit Diagram and Exploded Views" for correct assembly.
- Before disassembling the unit, take out the cassette tape and the batteries.

NOTES ON HANDLING THE CHIP ELEMENT

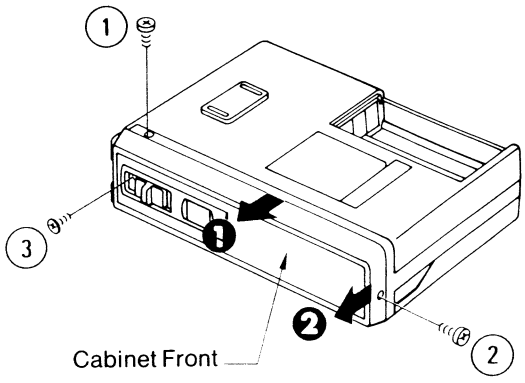
Pay due caution to the following items:

1. Do not use the removed chip element again.
2. Use a soldering iron of less than 30W.
   - * The soldering iron should not touch the body of the chip element.
   - * Complete soldering in a short time.
   - * Apply solder to the chip element as illustrated below.



CABINET FRONT REMOVAL

1. Remove the three screws (1 ~ 3) fastening the Cabinet Front.



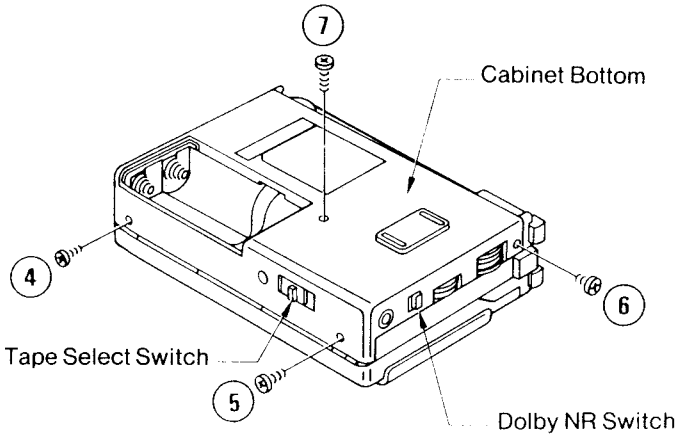
2. Detach the Cabinet Front by pulling it in the direction of the arrows.
3. Reassemble in reverse order.

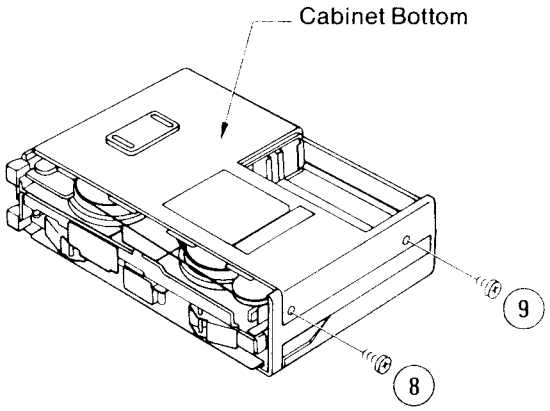
NOTE:
- * The Mute Button is removed together with the Cabinet Front.
- * Check that the F.FWD/REW Lever functions correctly after attaching the Cabinet Front to the unit.

CABINET BOTTOM REMOVAL

1. Detach the Cabinet Front by following its removal instructions. Then, remove the six screws (4 ~ 9) fastening the Cabinet Bottom.
2. Detach the Cabinet Bottom by lifting it in the direction of the arrow.

DISASSEMBLY INSTRUCTIONS (Continued)





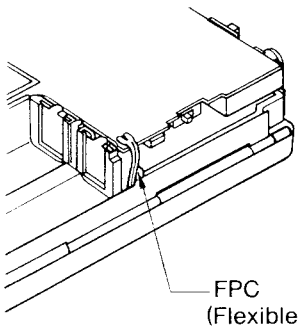
3. Reassemble in reverse order.

NOTE:
After the Cabinet Bottom is attached, check that the Tape Select and the Dolby NR Switches are changed over correctly.

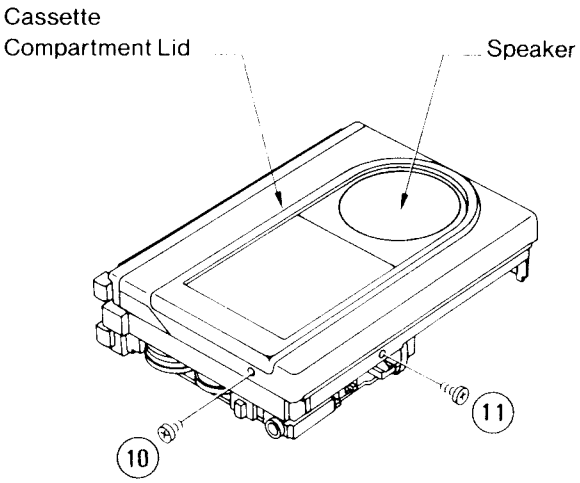
CASSETTE COMPARTMENT LID REMOVAL

1. Detach the Cabinet Front and Cabinet Bottom by following the instructions for them.

2. Unsolder the FPC (Flexible Printed Circuit) for the speaker from the Amplifier P.C.Board.



3. Detach the Cassette Compartment Lid by removing the two fastening screws (10 and 11).



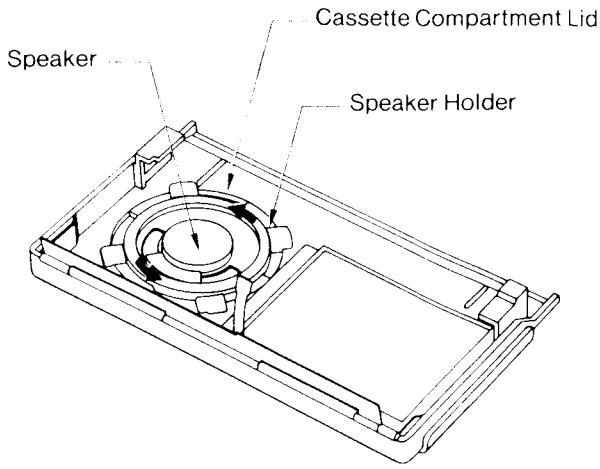
NOTE:
After attaching the Cassette Compartment Lid to the unit, apply paint or glue to the fastening screw (10) from the inside of the Lid to secure it.

4. Reassemble in reverse order.

SPEAKER REMOVAL

1. Detach the Cassette Compartment Lid by following its removal instructions. Then, detach the Speaker Holder by turning it counterclockwise with the tool.

2. Peel off the four Cushions and detach the Speaker noting the FPC.

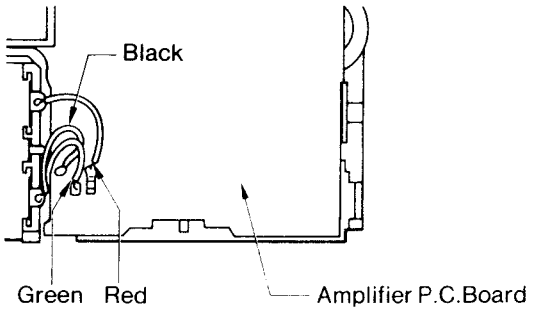


3. Reassemble in reverse order.

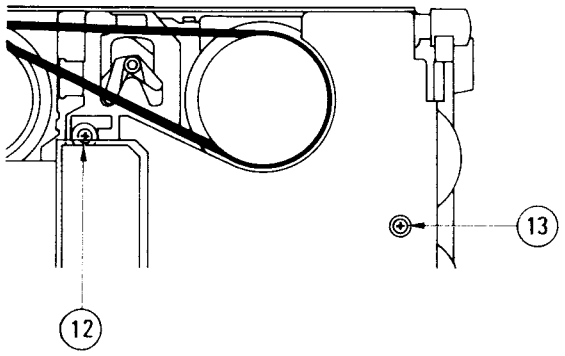
DISASSEMBLY INSTRUCTIONS (Continued)

AMPLIFIER P.C.BOARD REMOVAL

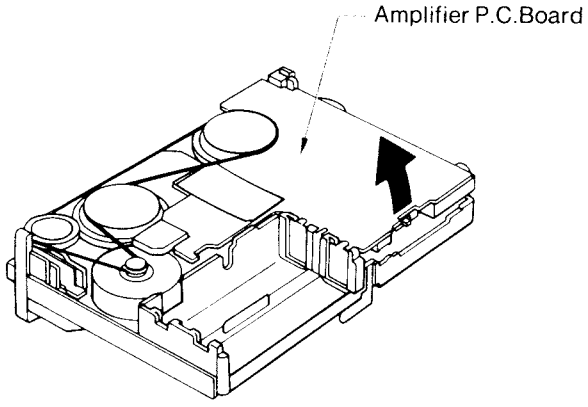
1. Detach the Cabinet Front and Cabinet Bottom by following the instructions for them.
   Then, unsolder the three leads (red, green, and black), running to the Battery Terminal, from the Amplifier P.C.Board.



2. Remove the two screws (12 and 13) fastening the Amplifier P.C.Board.



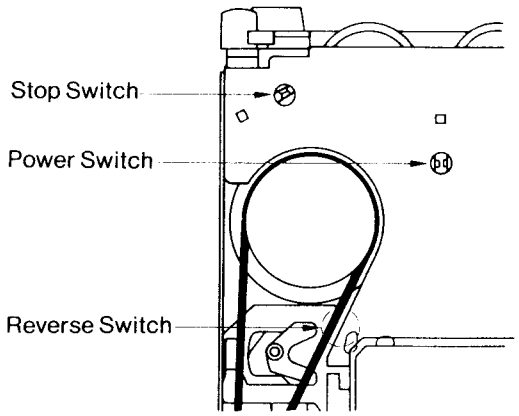
3. Remove the Amplifier P.C.Board by lifting its Ext. Power Jack side in the direction of the arrow noting the lead wires.



4. Reassemble in reverse order.

NOTES ON ATTACHING AMPLIFIER P.C.BOARD

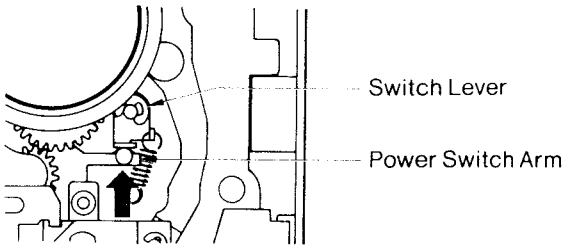
The Amplifier P.C.Board has the Stop Switch, Power Switch and Reverse Switch as illustrated.

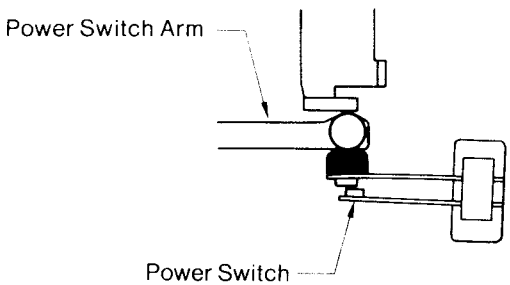


Then, the Amplifier P.C.Board is attached to the unit and each of the three Switches has to be in the following condition.

- **STOP SWITCH**
  The contacts of this switch are always closed.
  The Switch will open while the Stop Button is being pressed.

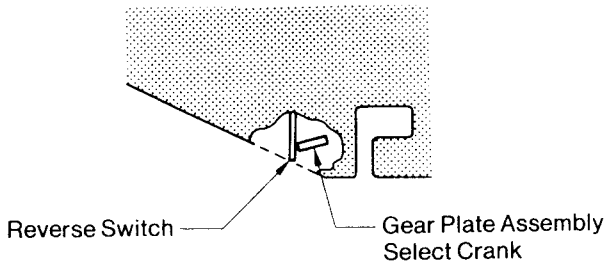
- **POWER SWITCH**
  This Switch will close when the Play Button is pressed.
  Push up the Power Switch Arm as illustrated before attaching the P.C.Board





- **REVERSE SWITCH**
  This Switch must be positioned to the left side of the Select Crank in the Gear Plate Assembly as illustrated.
  When the Switch is positioned to the right side of the Select Crank, the opposite channel of the tape will be played back from the back to the begining.

DISASSEMBLY INSTRUCTIONS (Continued)

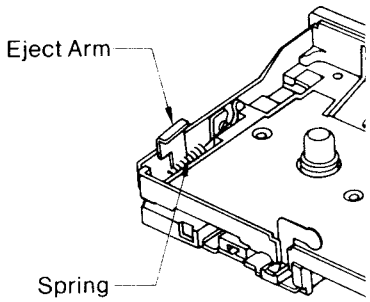


MECHANISM CHASSIS REMOVAL

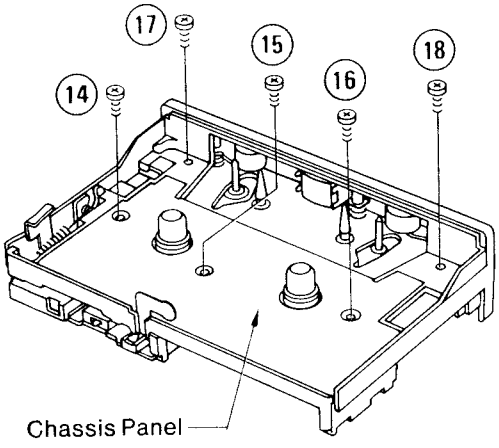
1. Detach the Cabinet Front, Cabinet Bottom and Cassette Compartment Lid by following the instructions for them.

2. Unsolder the following lead wires from the Amplifier P.C.Board.
   * Three leads (red, green and black) of the Battery Terminal
   * Two leads (yellow and blue) of the Dolby NR Indicator
   * Three leads (yellow, blue, and green) of the Tape Running Direction Indicator P.C.Board
   * Two leads (blue and white) of the Mute Switch P.C.Board
   * Unsolder the two leads (blue and white) from the Mute Switch P.C.Board.

3. Detach the Eject Arm by disengaging the Spring from the unit.



4. Remove the three screws (14 ~ 16) fastening the Chassis Panel and detach the Panel. Then, remove the two screws (17 and 18) fastening the Mechanism Chassis.



5. Remove the Mechanism Chassis together with the Amplifier P.C.Board from the Frame.

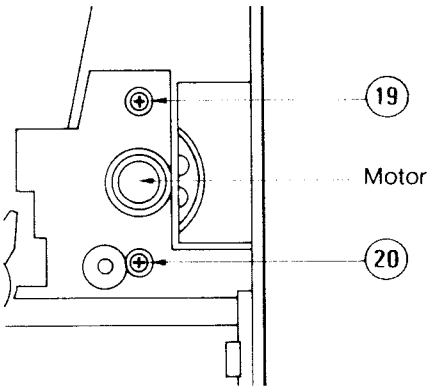
6. Reassemble in reverse order.

MOTOR REPLACEMENT

1. Detach the Cabinet Bottom and Cassette Compartment Lid by following the instructions for them. Then, detach the Chassis Panel by removing the three screws (14 ~ 16) fastening it.

2. Unsolder the two leads (blue and black) of the Motor and disengage the Drive Belt.

3. Remove the two screws (19 and 20) fastening the Motor and detach the Motor from the unit.



4. Reassemble in reverse order to replace with a new one. Then, secure the fastening screws with paint or glue.

ADJUSTMENTS

GENERAL REMARKS

- Before the adjustments, wipe off stains on the tape contacting surfaces of the parts and the belt with a soft cloth soaked in alcohol. Trouble may occur because of oil and grease stains.

- Carefully handle the belt because grease easily attaches to it.

- When the batteries are almost used up and the Play Button is pressed, the Slide Base stops halfway, making it difficult to remove the cassette tape from the compartment.
  To avoid this symptom, press the Stop Button. Then, replace the batteries with new ones.

REQUIRED EQUIPMENT

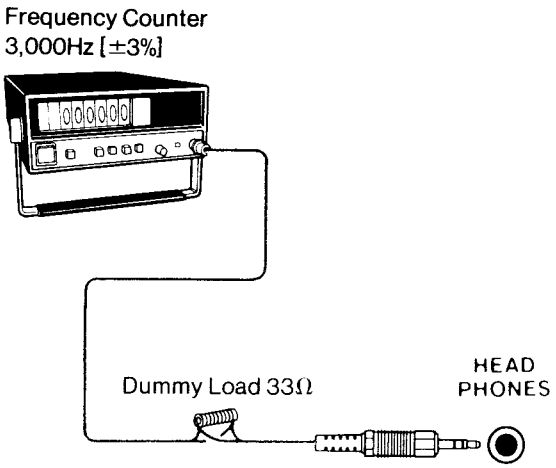
- Dualtrace Synchroscope
- VTVM (2 sets)
- Frequency Counter
- DC Constant-voltage Regulator
- Dummy Load (33Ω)
- Test Tapes
  * 3kHz Test Tape (Example: TEAC MTT-111) for Tape Speed Adjustment
  * 10kHz Test Tape (Example: A·BEX TCC-152) for Head Azimuth Adjustment
  * 400Hz Test Tape (Example: TEAC MTT-150) for Dolby Level Adjustment
- Alignment Tool

NOTE:

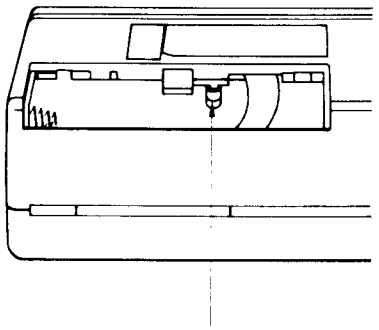
1. This Model adopts the Auto Reverse Mechanism.
   Then, the tape running direction is distinguished as follows:
   - **Forward Direction;**
     The tape is wound counterclockwise.
   - **Reverse Direction;**
     The tape is wound clockwise.
2. When adjusting supply 3.0V DC from the constant-voltage regulator to the Ext. Power Jack.
3. Before performing the adjustment, set the controls and switches as follows:
   * Volume Control ..... Arbitrary
   * Tone Control ..... Maximum
   * Dolby NR Switch ..... OFF
   * Tape Select Switch ..... NORM.
4. When performing the adjustment while playing back the test tape, set the tape running the **Forward Direction** by pressing the Play Button.

TAPE SPEED ADJUSTMENT

1. Detach the Battery Compartment Lid and connect the frequency counter to the headphone jack as illustrated.
   Then, insert the 3kHz test tape (Example: TEAC MTT-111) into the cassette compartment.



2. While playing back the test tape, adjust the tape speed by turning the potentiometer P301 on the Amplifier P.C.Board as illustrated until the frequency counter reads 3,000Hz [±3%].

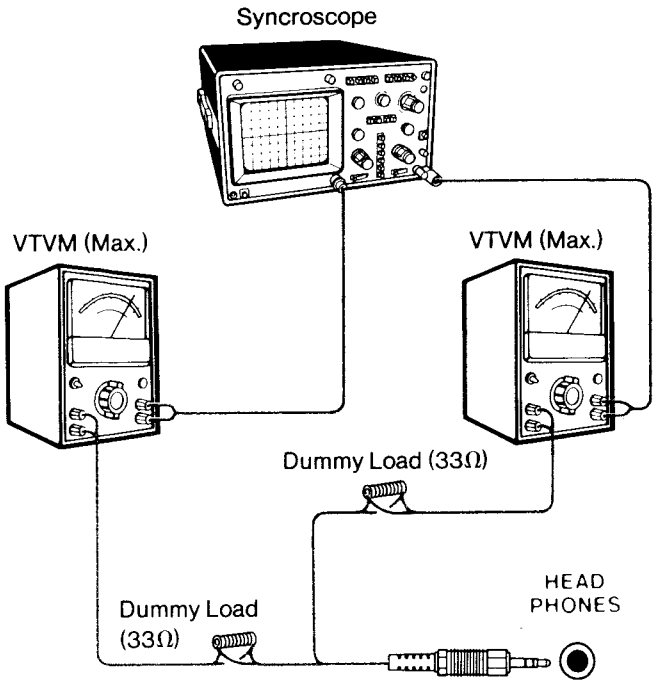


Tape Speed Adjusting Volume

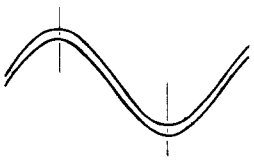
HEAD AZIMUTH ADJUSTMENT

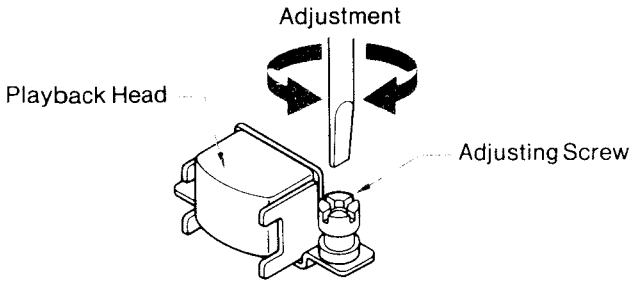
1. Connect the dualtrace synchroscope to the headphone jack as illustrated and insert the 10kHz test tape (Example: A·BEX TCC-152) into the cassette compartment.
   Set the syncroscope as follows:
   * MODE ..... CHOP (chopped)
   * SOURCE ..... INT. (internal) CH1 or CH2
   * SWEEP MODE ..... AUTO (automatic)
2. While playing back the test tape, turn the azimuth adjusting screw until the amplitudes of both channel output wave forms become maximum and the wave forms overlap as well as posible in the maximum condition of the VTVMs as illustrated.

ADJUSTMENTS (Continued)



3. Set the tape running to the reverse direction and check the Head Azimuth of this direction



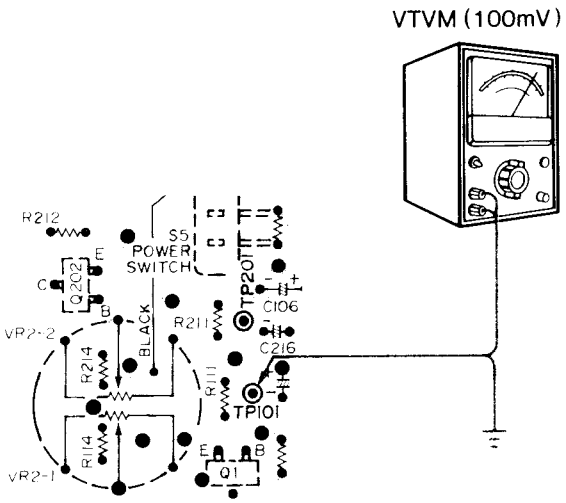


4. After the adjustment, secure the azimuth adjustment screw with paint or glue.

DOLBY LEVEL ADJUSTMENT

LEFT CHANNEL

1. Detach the Cabinet Bottom and connect the VTVM to the test point TP101 as illustrated and then insert the 400Hz test tape (ExampleL TEAC MTT-150) into the cassette compartment.



Test Point (TP101)

2. While playing back the test tape, adjust the potentiometer (P101) until the VTVM reads 100mV.

RIGHT CHANNEL

Connect the VTVM to the test point TP201 and adjust the potentiometer (P201) for the right channel by following the same procedure as in "LEFT CHANNEL".

PARTS LIST

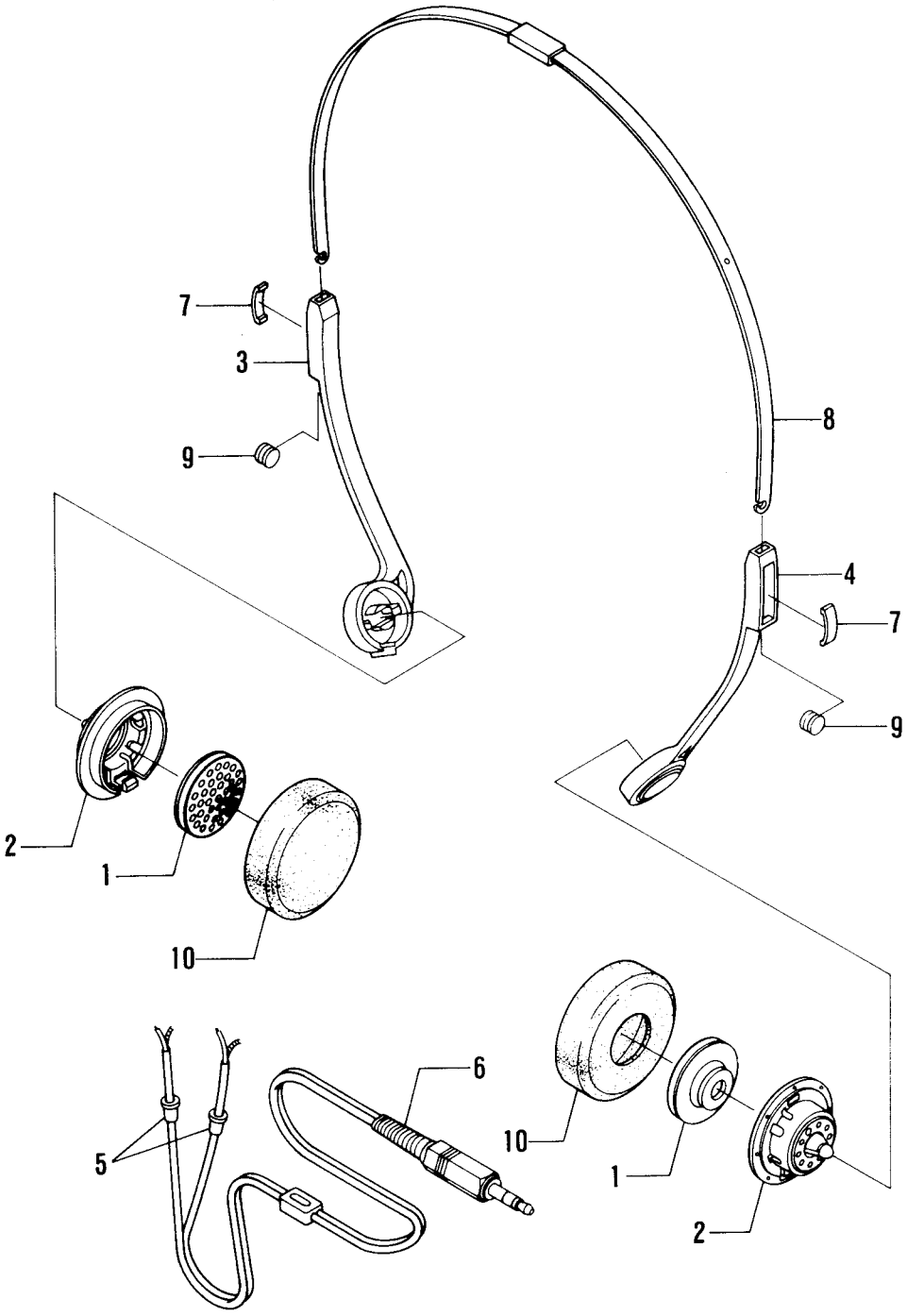
Ref. No.	Part No.	Description	Q'ty
	PACKAGE		
	141 6 1419 67603	Individual Carton	1
	141 6 1449 86100	Styrofoam Case	1
	141 6 2519 12090	Poly Cover	1
	141 6 3919 43400	Plain Pad	1
	141 6 4559 03300	Serial No. Sheet	3
	141 6 4559 03906	Red Color Label (Red)	3
	141 6 4559 03909	White Color Label (White)	3
	141 6 4559 03918	Gold Color Label (Gold)	3
	ACCESSORIES		
‡	4 1529 70362	Headphones	1
	4 2419 73973	Cassette	1
	141 0 1729 00101	Belt Clip Assy	1
	141 2 1769 07900	Shoulder Strap	1
	141 2 1819 14302	Carrying Case	1
	142 6 4119 31694	Instruction Book	1
	HEADPHONES		
‡	4 1529 70362	Headphones	1
1	4 1519 71350	Ear Speaker	2
2	141 2 1259 05000	Housing	2
3	141 2 1769 08202	Hanger, Left	1
4	141 2 1769 08203	Hanger, Right	1
5	141 2 3529 37100	Tube	2
6	4 2369 73660	Plug Cord	1
7	141 2 3529 37000	Slide Adjustor	2
8	141 2 1769 08300	Slider	1
9	141 2 8219 32800	Stopper	2
10	141 2 4469 42000	Ear Pad	2
	CABINET		
	4 2029 71520	LED, SLC-22UR (DOLBY NR) [D1] (Included in CA10)	1
	4 2029 72400	LED Indicator P.C.B. Assy (Included in CA10) **[See PCB2]**	1
			1
CA1	141 0 1249 24508	Cassette Lid Assy (Red)	1
CA1	141 0 1249 24509	Cassette Lid Assy (White)	1
CA1	141 0 1249 24502	Cassette Lid Assy (Gold)	1
CA2	141 2 4219 26700	Screw, Pan Hd., +M1.4x2.0 (Red)	4
CA2	141 2 4219 26701	Screw, Pan Hd., +M1.4x2.0 (White)	4
CA2	141 2 4219 26702	Screw, Pan Hd., +M1.4x2.0 (Gold)	4
CA3	141 2 4469 14406	Cushion	2
CA4	141 2 2899 31500	Speaker Sheet	1
CA5	4 1519 71440	Speaker (8Ω) [SP1]	1
CA6	4 2269 38530	FPC, Speaker	1
CA7	141 2 4469 27600	Cushion	4
CA8	141 2 3729 03700	Speaker Holder	1
CA9	141 2 1219 23300	Chassis Panel (Red/Gold)	1
CA9	141 2 1219 23302	Chassis Panel (White)	1
CA10	141 0 1149 10300	Completed Frame (Red/Gold)	1
CA10	141 0 1149 10303	Completed Frame (White)	1
CA11	141 2 2519 03305	Hinge (Red)	1
CA11	141 2 2519 03313	Hinge (White)	1
CA11	141 2 2519 03308	Hinge (Gold)	1
CA12	141 2 4219 27600	Screw, Flat Hd., +M1.7x2.5	1
CA13	141 0 2529 00800	Eject Arm Assy	1
CA14	141 2 8549 13400	Spring, Eject	1

Ref. No.	Part No.	Description	Q'ty
CA15	141 2 2899 21600	Adhesive Sheet	1
CA16	141 2 4469 31801	Sheet	1
CA17	4 1329 78690	Amplifier P.C.B. Assy **[See PCB1]**	1
CA18	141 2 4469 14502	Cushion	3
CA19	141 2 1639 52300	Knob, Volume Left	1
CA20	141 2 1639 52200	Knob, Volume Right	1
CA21	141 2 4219 26800	Screw	1
CA22	141 2 1639 52100	Knob, Tone	1
CA23	141 2 4219 10600	Screw, +M1.7x4.0 (Gold)	3
CA23-1	141 2 4219 10601	Screw, +M1.7x4.0 (Gold)	1
CA23-1	141 2 4219 10601	Screw, +M1.7x4.0 (Red)	4
CA23-1	141 2 4219 10601	Screw, +M1.7x4.0 (White)	1
CA23-2	141 2 4219 10602	Screw, +M1.7x4.0 (White)	3
CA24	141 2 1649 21400	Knob, Switch, DOLBY NR	1
CA25	141 2 3229 41800	Shield Leaf	1
CA26	141 2 4539 19301	Washer	1
CA27	141 0 1119 91109	Cabinet Bottom Assy (Red)	1
CA27	141 0 1119 91110	Cabinet Bottom Assy (White)	1
CA27	141 0 1119 91102	Cabinet Bottom Assy (Gold)	1
CA28	141 2 4219 15400	Screw, +M1.7x2.0 (Red)	2
CA28-1	141 2 4219 15401	Screw, +M1.7x2.0 (Red)	2
CA28-1	141 2 4219 15401	Screw, +M1.7x2.0 (White)	4
CA28-2	141 2 4219 15402	Screw, +M1.7x2.0 (Gold)	4
CA29	141 2 1339 29200	Battery Lid (Red)	1
CA29	141 2 1339 29207	Battery Lid (White)	1
CA29	141 2 1339 29202	Battery Lid (Gold)	1
CA30	141 2 1649 21000	Knob, Switch, Tape Select	1
CA31	141 2 4359 33200	Insulator	1
CA32	141 0 1119 91009	Cabinet Front Assy (Red)	1
CA32	141 0 1119 91010	Cabinet Front Assy (White)	1
CA32	141 0 1119 91002	Cabinet Front Assy (Gold)	1
CA33	141 2 4359 30700	Insulator	1
CA34	141 2 1659 08300	Knob, Mute	1
CX1	110 3 2101 70013	Spring Washer-2, M1.7	1
CX2	127 3 1214 01618	PI Screw-1, Flat Hd., +M1.4x1.6	1
CX3	127 3 1317 03018	PI Screw-1, Pan Hd., +M1.7x3.0 (Red/Gold)	5
CX3	127 3 1317 03014	PI Screw-1, Pan Hd., +M1.7x3.0 (White)	5
CX4	127 3 1317 03513	PI Screw-1, Pan Hd., +M1.7x3.5	2

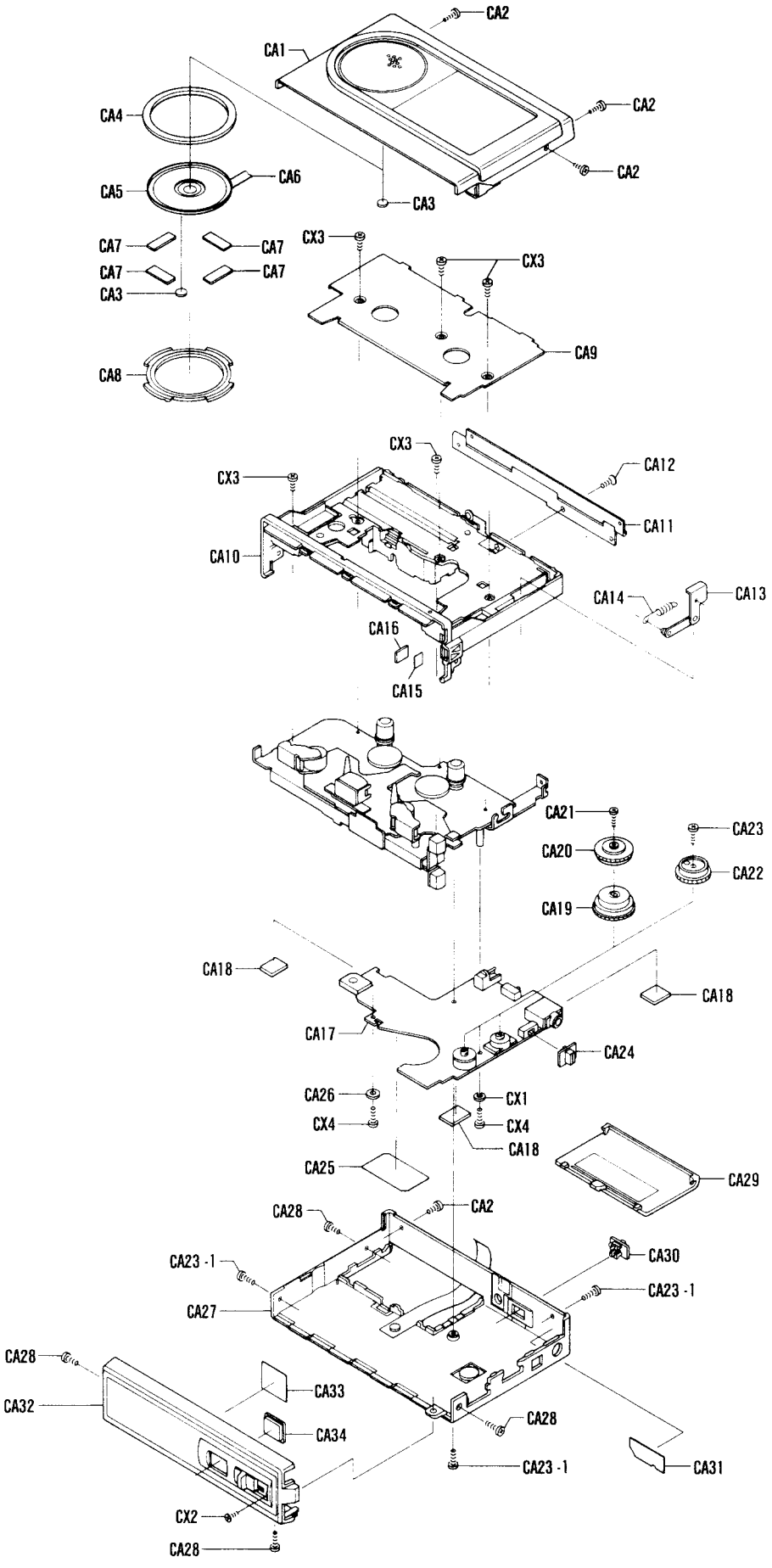
NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

HEADPHONE EXPLODED VIEW



CABINET EXPLODED VIEW



MECHANISM PARTS LIST

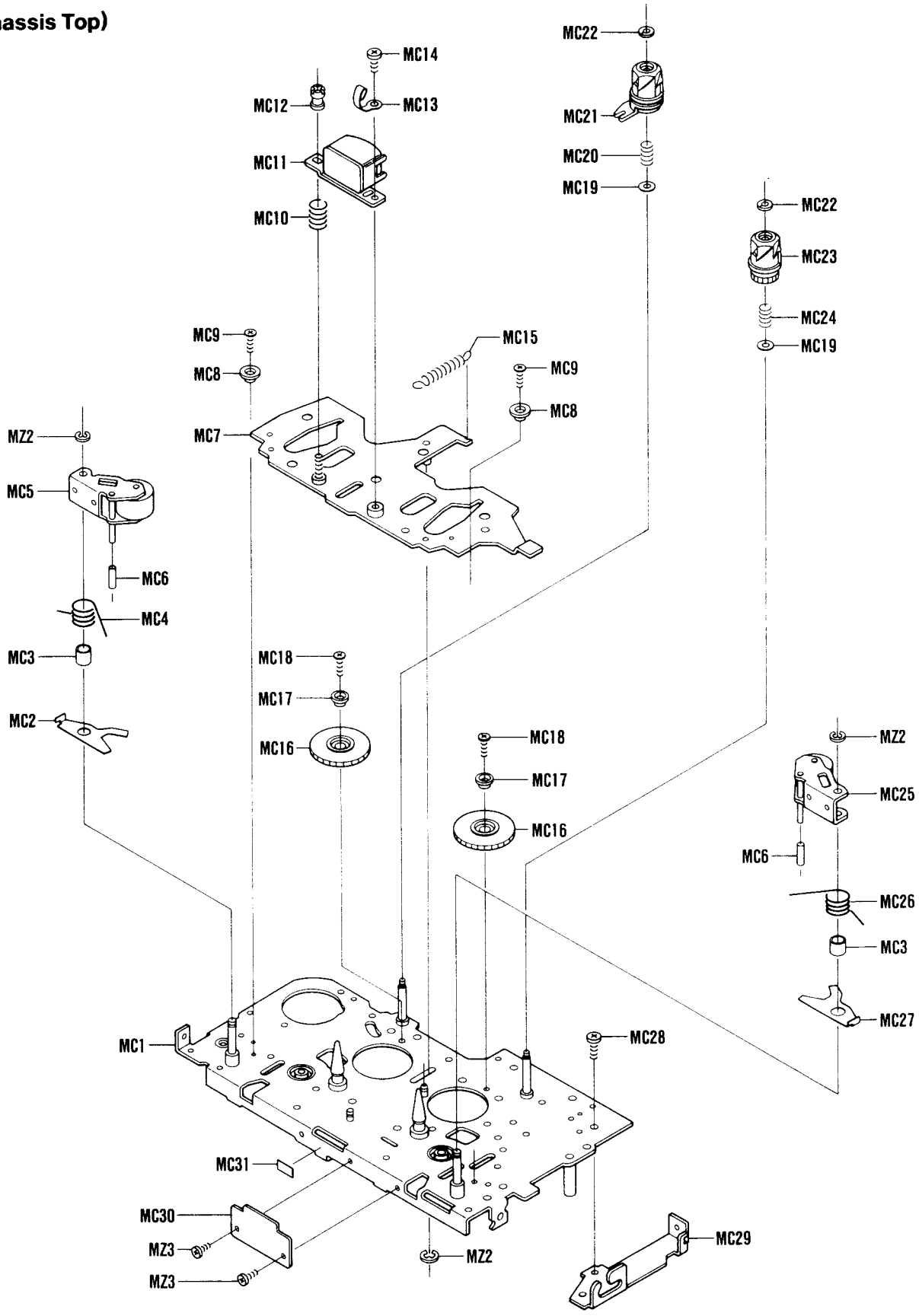
Ref. No.	Part No.	Description	Q'ty
	MECHANISM		
MC1	141 0 3119 22500	Chassis Assy	1
MC2	141 2 7439 31501	Pinch Roller Post Arm	1
MC3	141 2 8259 11400	Pinch Roller Post	2
MC4	141 2 8529 13600	Spring, Reverse Pinch Roller Arm	1
MC5	141 0 5459 02101	Pinch Roller Arm Assy, Reverse	1
MC6	141 2 8259 11600	Spindle Pinch Roller	2
MC7	141 0 7319 25800	Slide Base Assy	1
MC8	141 2 3529 34500	Spacer, Slide Base	2
MC9	141 2 4219 27600	Screw, Flat Hd., +M1.7x2.5	2
MC10	141 2 8559 02300	Spring, Azimuth	1
MC11	4 2429 72370	Play Head [HD1]	1
MC12	141 2 4179 02200	Nut, Head	1
MC13	141 2 4729 08400	Lug	1
MC14	141 2 4219 10801	Screw, +M2.0x2.5	1
MC15	141 2 8549 17800	Spring, Base Slide	1
MC16	141 2 5519 48700	Gear Wind	2
MC17	141 2 3529 34800	Spacer, Gear Rewind	2
MC18	141 2 4219 27500	Screw, +M1.4x3.0	2
MC19	141 2 4539 27602	Washer	6
MC20	141 2 8559 05400	Spring, Supply	1
MC21	141 0 5369 02000	Supply Reel Assy	1
MC22	141 2 4539 17500	Washer	12
MC23	141 0 5369 02100	Take-up Reel Assy	1
MC24	141 2 8559 05100	Spring, Back Tension	1
MC25	141 0 5459 02100	Pinch Roller Arm Assy, Forward	1
MC26	141 2 8529 13500	Spring, Pinch Roller Arm, Forward	1
MC27	141 2 7439 31500	Post, Pinch Roller Arm	1
MC28	141 2 4219 09000	Screw, +M2.0x2.0	1
MC29	141 2 2529 05900	Eject Bracket	1
MC30	4 2319 75930	Push Switch (Mute) [S4]	1
MC31	141 2 2899 30600	Adhesive Sheet	2
MC32	141 0 7419 37700	Stop Lever Assy	1
MC33	141 2 4579 03800	Washer	1
MC34	141 2 8549 12800	Spring, Play Lever	2
MC35	141 0 7419 37800	Play Lever Assy	1
MC36	141 2 4539 27601	Washer	2
MC37	141 0 5219 09700	Completed Flywheel	2
MC38	141 2 5649 21600	Drive Belt	1
MC39	141 0 3169 08200	Gear Plate Assy	1
MC40	141 2 8549 18000	Spring, Arm Gear	2
MC41	141 2 4219 28400	Screw, Pan Hd., +M1.4x2.5	2
MC42	141 0 5519 09700	Friction Assy	2
MC43	141 2 4729 08300	Fix Lead Plate	1
MC44	141 2 8559 05000	Spring, Cancel Lever	1
MC45	141 2 7419 86300	Cancel Lever	1
MC46	141 2 7419 85700	Lock Lever	1
MC47	141 0 7439 11600	Fast Lock Arm Assy	1
MC48	141 2 8549 17900	Spring, Select Arm	1
MC49	141 0 7319 25700	Power Plate Assy	1
MC50	141 2 8519 60600	Spring, Tension	1
MC51	141 2 5519 48100	Pulley, Worm	1
MC52	141 2 4539 18200	Washer	4
MC53	4 5279 71260	Motor [M1]	1
MC54	141 2 4579 04400	E Ring	2
MC55	141 2 7419 85800	Reverse Lever	1
MC56	141 2 8259 11500	Reverse Lever Roller	2
MC57	141 0 7419 37500	Trigger Lever Assy	1
MC58	141 2 8549 17700	Spring, Review Lever	1
MC59	141 2 7419 85600	Switch Lever	1
MC60	141 2 8549 18100	Spring, Switch Lever	1
MC61	141 2 7439 32700	Power Switch Arm	1
MC62	141 2 4539 15700	Washer	3
MC63	141 2 7439 32900	Switch Act Arm	1
MC64	141 2 8549 07900	Spring, Switch Lever	2
MC65	141 2 8529 13800	Spring, Gear Lock Arm	1
MC66	141 2 3519 63600	Holder Spring	1
MC67	141 2 8529 13700	Spring, Fast Lever	1
MC68	141 2 4579 04700	Washer	1
MC69	141 2 4219 30200	Screw, +M1.4x5.0	1
MC70	141 2 5519 48600	Slow Gear	2
MC71	141 2 7439 32800	Power Gear Lock Arm	1
MC72	141 2 5519 49400	Power Gear	1
MC73	141 2 5519 48800	Free Gear	1
MC74	141 0 3519 21800	Worm Bracket Assy	1
MC75	141 2 5519 48200	Worm Gear	1
MC76	141 2 8549 20000	Spring, Lever	1
MC77	141 2 8529 13900	Spring, Power Gear Arm	1
MC78	141 2 7439 32400	Power Gear Arm	1
MC79	141 2 7319 56300	Sensor Lever	1
MC80	141 2 4539 26200	Washer	1
MC81	141 2 4539 31600	Washer	1
MC82	141 2 7439 32600	Cancel Arm	1
MC83	141 2 8529 14100	Spring, Reverse Cancel	1
MC84	141 2 8549 12700	Spring, Base Lock Arm	1
MC85	141 0 3519 21900	Bracket Lever Slow Assy	1
MZ1	112 3 1301 20082	E Ring, M1.2	10
MZ2	112 3 1301 50082	E Ring, M1.5	6
MZ3	127 3 1314 01613	PI Screw-1, Pan Hd., +M1.4x1.6	5
MZ4	127 3 1314 04013	PI Screw-1, Pan Hd., +M1.4x4.0	1
MZ5	127 3 1317 02013	PI Screw-1, Pan Hd., +M1.7x2.0	2
MZ6	127 3 1317 02518	PI Screw-1, Pan Hd., +M1.7x2.5	1
MZ7	128 3 1314 02513	PI Screw-3, Pan Hd., +M1.4x2.5	1

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

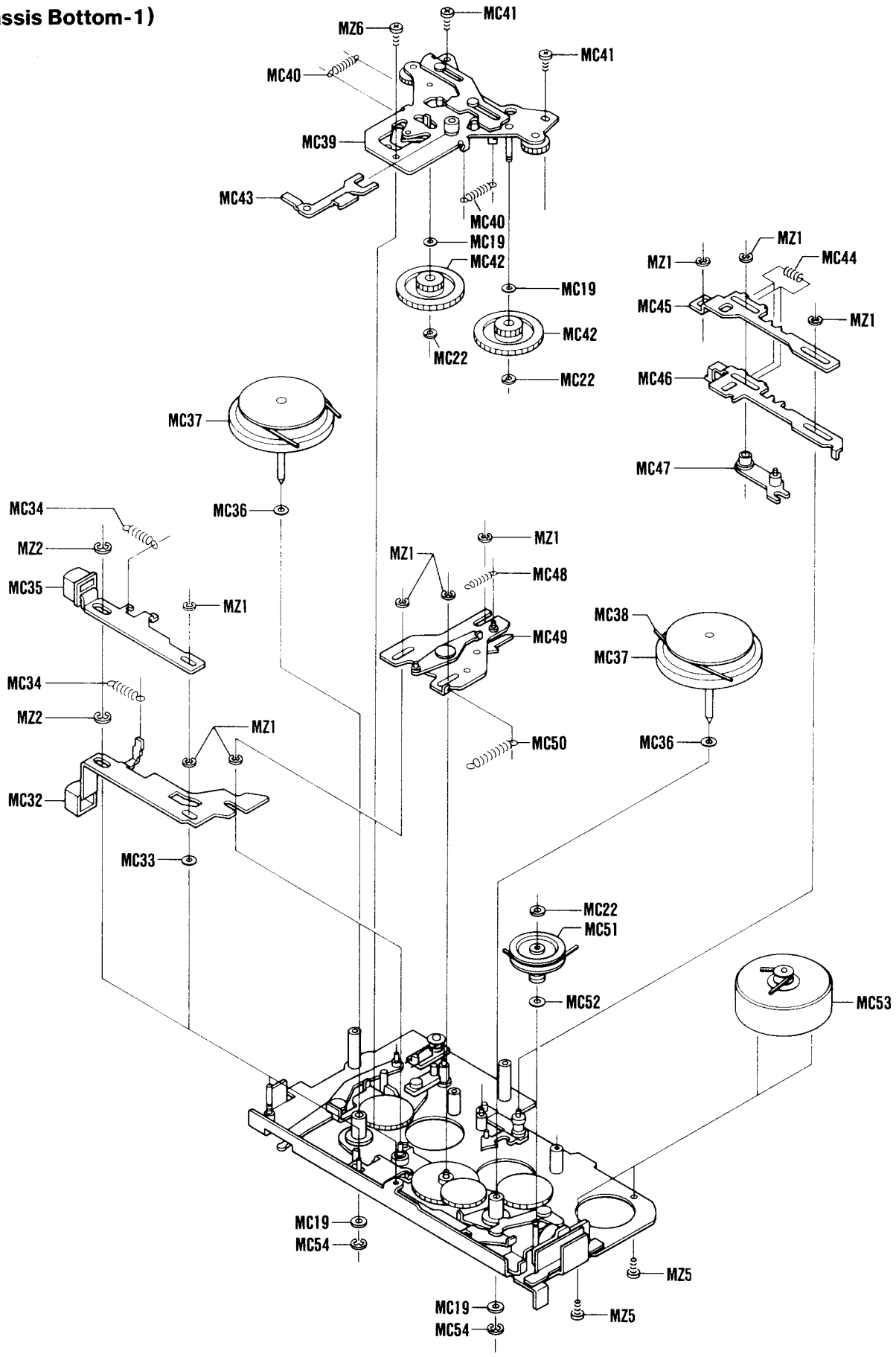
MECHANISM EXPLODED VIEW

(Chassis Top)



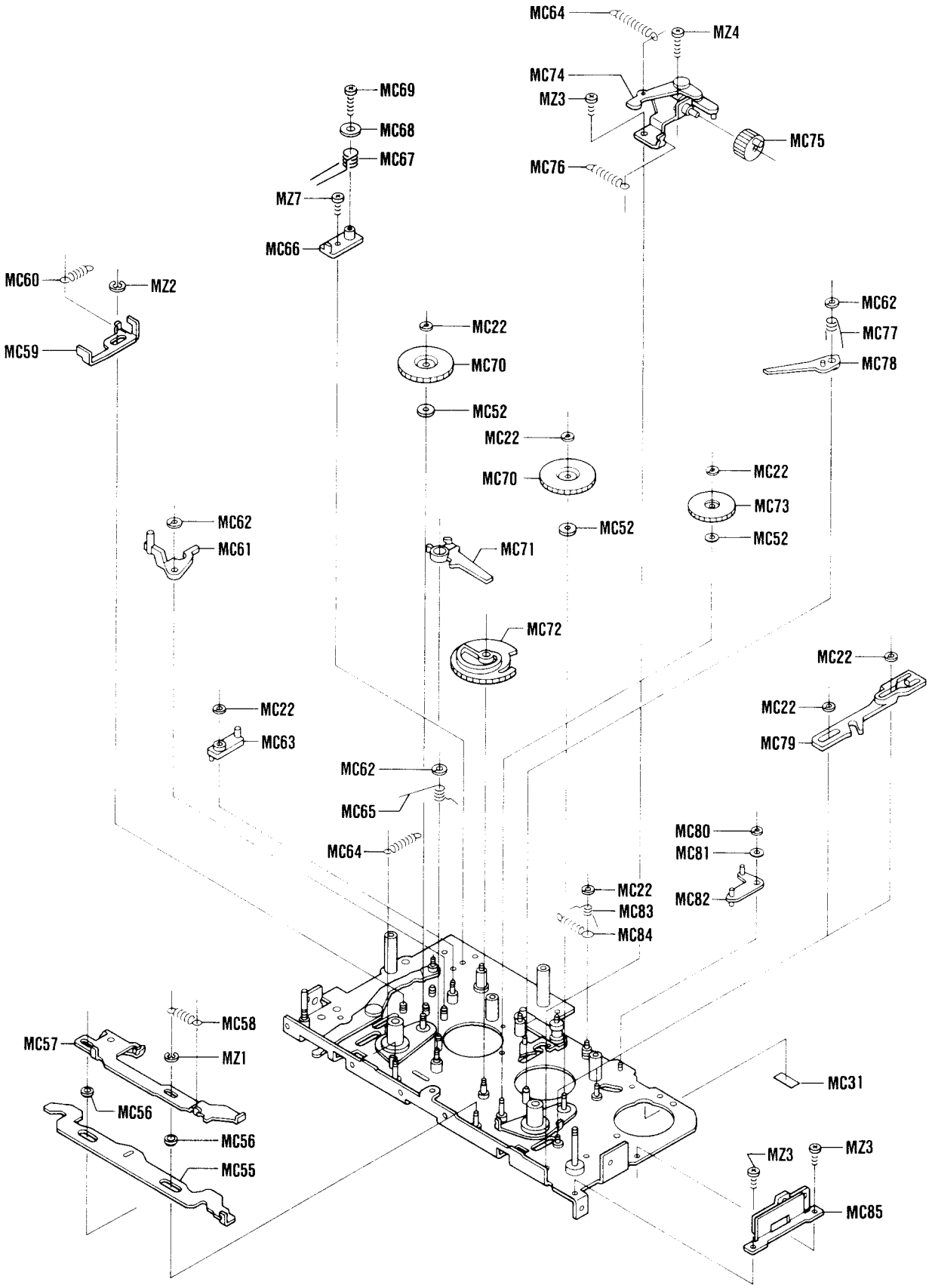
MECHANISM EXPLODED VIEW (Continued)

(Chassis Bottom-1)



MECHANISM EXPLODED VIEW (Continued)

(Chassis Bottom-2)



P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description			Q'ty
	AMPLIFIER P.C.B. ASSY				
PCB1	4 1329 78690	Amplifier P.C.B. Assy			1
	141 2 2449 34800	Sheet			1
	141 2 2449 34800	Mylar Sheet			1
S1	141 2 8539 49200	Spring Switch (Reverse)			1
S2	4 2319 75810	Slide Switch (Tape Select)			1
S3	4 2319 75810	Slide Switch (DOLBY NR)			1
S5	4 2319 74490	Leaf Switch (Power)			1
S6	4 2319 74490	Leaf Switch (Stop)			1
J1	4 2359 75500	1P Jack (Headphones)			1
J2	4 2359 74320	Ext. Power Socket			1
VR1	4 2229 74010	Rotary Volume (Tone, A-20kΩ)			1
VR2	4 2229 73692	Volume Control (Volume, A-20kΩ)			1
P301	4 2229 74060	Potentiometer (B-10kΩ)			1
D2	4 2029 71320	Diode, MA151WK			1
Q1	203 5 4422 81260	Transistor, 2SC 2812			1
Q2	203 5 4422 81260	Transistor, 2SC 2812			1
Q101	203 5 4422 81260	Transistor, 2SC 2812			1
Q102	203 5 4422 81260	Transistor, 2SC 2812			1
Q201	203 5 4422 81260	Transistor, 2SC 2812			1
Q202	203 5 4422 81260	Transistor, 2SC 2812			1
IC1	4 2069 71850	IC, BAF3404			1
IC2	4 2069 71800	IC, BAF1102			1
IC3	4 2069 71860	IC, AN7118			1
IC301	206 5 3285 52210	IC, LA5522			1
C1	CD2 2 740A 0002V	Electrolytic	220μF	4V	1
C2	CT4 7 630A M00FV	Tantalume	47μF	3V ±20%	1
C3	CT2 2 540A 000CV	Tantalume	2.2μF	4V	1
C4	CD1 0 663A 0004V	Electrolytic	10μF	6.3V	1
C5	CD1 0 740A 0002V	Electrolytic	100μF	4V	1
C6	CD3 3 663A 0004V	Electrolytic	33μF	6.3V	1
C7	CD1 0 663A 0004V	Electrolytic	10μF	6.3V	1
C8	CD2 2 740A 0002V	Electrolytic	220μF	4V	1
C9	CD4 7 640A 0002V	Electrolytic	47μF	4V	1
C10	CD2 2 740A 0002V	Electrolytic	220μF	4V	1
C11	CG1 0 2500 KH00B	Chip	0.001μF	50V ±10%	1
C101	CT4 7 630A M00NV	Tantalume	47μF	3V ±20%	1
C102	CG2 2 3250 KH00A	Chip	0.022μF	25V ±10%	1
C103	CT1 0 5100 M00CV	Tantalume	1μF	10V ±20%	1
C104	CG1 8 3250 KH00A	Chip	0.018μF	25V ±10%	1
C105	CG2 7 3250 KH00A	Chip	0.027μF	25V ±10%	1
C106	CT1 0 5100 M00CV	Tantalume	1μF	10V ±20%	1
C107	CG1 0 2500 KH00B	Chip	0.001μF	50V ±10%	1
C108	CG1 0 2500 KH00B	Chip	0.001μF	50V ±10%	1
C109	CG1 0 2500 KH00B	Chip	0.001μF	50V ±10%	1
C110	CG3 3 3250 KH00A	Chip	0.033μF	25V ±10%	1
C111	CG4 7 2500 KH00B	Chip	0.0047μF	50V ±10%	1
C112	CD4 7 5160 0004V	Electrolytic	4.7μF	16V	1
C113	CG1 0 3250 KH00A	Chip	0.01μF	25V ±10%	1
C114	CG3 3 3250 KH00A	Chip	0.033μF	25V ±10%	1
C115	CT1 0 4350 M00CV	Tantalume	0.1μF	35V ±20%	1
C116	CD1 0 663A 0004V	Electrolytic	10μF	6.3V	1
C117	CG1 0 2500 KH00B	Chip	0.001μF	50V ±10%	1
C118	CG6 8 0500 KD00B	Chip	68pF	50V ±10%	1
C119	CD2 2 663A 0004V	Electrolytic	22μF	6.3V	1
C120	CD4 7 640A 0002V	Electrolytic	47μF	4V	1
C121	CG1 5 3250 KH00A	Chip	0.015μF	25V ±10%	1
C122	CD2 2 740A 0002V	Electrolytic	220μF	4V	1
C123	CG1 0 2500 KH00B	Chip	0.001μF	50V ±10%	1
C124	CG1 0 2500 KH00B	Chip	0.001μF	50V ±10%	1
C201	CT4 7 630A M00NV	Tantalume	47μF	3V ±20%	1
C202	CG2 2 3250 KH00A	Chip	0.022μF	25V ±10%	1
C203	CT1 0 5100 M00CV	Tantalume	1μF	10V ±20%	1
C204	CG1 8 3250 KH00A	Chip	0.018μF	25V ±10%	1

Ref. No.	Part No.	Description			Q'ty
C205	CG2 7 3250 KH00A	Chip	0.027μF	25V ±10%	1
C206	CT1 0 5100 M00CV	Tantalume	1μF	10V ±20%	1
C207	CG1 0 2500 KH00B	Chip	0.001μF	50V ±10%	1
C208	CG1 0 2500 KH00B	Chip	0.001μF	50V ±10%	1
C209	CG1 0 2500 KH00B	Chip	0.001μF	50V ±10%	1
C210	CG3 3 3250 KH00A	Chip	0.033μF	25V ±10%	1
C211	CG4 7 2500 KH00B	Chip	0.0047μF	50V ±10%	1
C212	CD4 7 5160 0004V	Electrolytic	4.7μF	16V	1
C213	CG1 0 3250 KH00A	Chip	0.01μF	25V ±10%	1
C214	CG3 3 3250 KH00A	Chip	0.033μF	25V ±10%	1
C215	CT1 0 4350 M00CV	Tantalume	0.1μF	35V ±20%	1
C216	CD1 0 663A 0004V	Electrolytic	10μF	6.3V	1
C217	CG1 0 2500 KH00B	Chip	0.001μF	50V ±10%	1
C218	CG6 8 0500 KD00B	Chip	68pF	50V ±10%	1
C219	CT2 2 630A M00NV	Tantalume	22μF	3V ±20%	1
C220	CD4 7 640A 0002V	Electrolytic	47μF	4V	1
C221	CG1 5 3250 KH00A	Chip	0.015μF	25V ±10%	1
C222	CD2 2 740A 0002V	Electrolytic	220μF	4V	1
C223	CG1 0 2500 KH00B	Chip	0.001μF	50V ±10%	1
C224	CG1 0 2500 KH00B	Chip	0.001μF	50V ±10%	1
C301	CD4 7 5160 0004V	Electrolytic	4.7μF	16V	1
C302	CD2 2 740A 0002V	Electrolytic	220μF	4V	1
C303	CT2 2 540A M00CV	Tantalume	2.2μF	4V ±20%	1
R1	RG2 2 1101 JB000	Chip	220Ω	1/10W ±5%	1
R2	RG2 7 1101 JB000	Chip	270Ω	1/10W ±5%	1
R3	RG1 0 3101 JB000	Chip	10kΩ	1/10W ±5%	1
R4	RG4 7 0101 KB000	Chip	47Ω	1/10W ±10%	1
R5	RG1 0 3101 JB000	Chip	10kΩ	1/10W ±5%	1
R6	RG5 6 1101 JB000	Chip	560Ω	1/10W ±5%	1
R7	RG1 0 3101 JB000	Chip	10kΩ	1/10W ±5%	1
R9	RG8 2 2101 JB000	Chip	8.2kΩ	1/10W ±5%	1
R10	RG1 2 3101 JB000	Chip	12kΩ	1/10W ±5%	1
R11	RG1 2 3101 JB000	Chip	12kΩ	1/10W ±5%	1
R12	RG5 6 1101 JB000	Chip	560Ω	1/10W ±5%	1
R13	RP1 0 5121 JV000	Pretty Carbon	1MΩ	1/8W ±5%	1
R101	RG1 0 1101 JB000	Chip	100Ω	1/10W ±5%	1
R102	RG6 8 2101 JB000	Chip	6.8kΩ	1/10W ±5%	1
R103	RG1 8 4101 JB000	Chip	180kΩ	1/10W ±5%	1
R104	RG2 2 2101 JB000	Chip	2.2kΩ	1/10W ±5%	1
R105	RG3 3 2101 JB000	Chip	3.3kΩ	1/10W ±5%	1
R106	RG2 2 2101 JB000	Chip	2.2kΩ	1/10W ±5%	1
R107	RG3 3 2101 JB000	Chip	3.3kΩ	1/10W ±5%	1
R108	RG4 7 3101 JB000	Chip	47kΩ	1/10W ±5%	1
R109	RG2 2 4101 JB000	Chip	220kΩ	1/10W ±5%	1
R110	RG8 2 4101 JB000	Chip	820kΩ	1/10W ±5%	1
R111	RG1 5 3101 JB000	Chip	15kΩ	1/10W ±5%	1
R112	RG1 0 1101 JB000	Chip	100Ω	1/10W ±5%	1
R113	RG4 7 A121 KA000	Chip	4.7Ω	1/8W ±10%	1
R114	RG1 0 3101 JB000	Chip	10kΩ	1/10W ±5%	1
R115	RG1 0 3101 JB000	Chip	10kΩ	1/10W ±5%	1
R116	RG5 6 1101 JB000	Chip	560Ω	1/10W ±5%	1
R117	RP9 1 2121 JV000	Pretty Carbon	9.1kΩ	1/8W ±5%	1
R118	RP2 2 2121 JV000	Pretty Carbon	2.2kΩ	1/8W ±5%	1
R201	RG1 0 1101 JB000	Chip	100Ω	1/10W ±5%	1
R202	RG6 8 2101 JB000	Chip	6.8kΩ	1/10W ±5%	1
R203	RG1 8 4101 JB000	Chip	180kΩ	1/10W ±5%	1
R204	RG2 2 2101 JB000	Chip	2.2kΩ	1/10W ±5%	1
R205	RG3 3 2101 JB000	Chip	3.3kΩ	1/10W ±5%	1
R206	RG2 2 2101 JB000	Chip	2.2kΩ	1/10W ±5%	1
R207	RG3 3 2101 JB000	Chip	3.3kΩ	1/10W ±5%	1
R208	RG4 7 3101 JB000	Chip	47kΩ	1/10W ±5%	1
R209	RG2 2 4101 JB000	Chip	220kΩ	1/10W ±5%	1
R210	RG8 2 4101 JB000	Chip	820kΩ	1/10W ±5%	1
R211	RG1 5 3101 JB000	Chip	15kΩ	1/10W ±5%	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
R212	RG1 0 1101 JB000	Chip	100Ω	1/10W	±5%	1
R213	RG4 7 A121 KA000	Chip	4.7Ω	1/8W	±10%	1
R214	RG1 0 3101 JB000	Chip	10kΩ	1/10W	±5%	1
R215	RG1 0 3101 JB000	Chip	10kΩ	1/10W	±5%	1
R216	RG5 6 1101 JB000	Chip	560Ω	1/10W	±5%	1
R217	RP9 1 2121 JV000	Pretty Carbon	9.1kΩ	1/8W	±5%	1
R218	RP2 2 2121 JV000	Pretty Carbon	2.2kΩ	1/8W	±5%	1
R301	RG3 3 2101 JB000	Chip	3.3kΩ	1/10W	±5%	1
R302	RG1 8 1101 JB000	Chip	180Ω	1/10W	±5%	1
R303	RG5 1 2101 JB000	Chip	5.1kΩ	1/10W	±5%	1

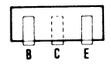
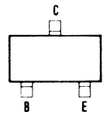
LED INDICATOR P.C.B. ASSY

PCB2	4 2029 72400	LED Indicator P.C.B. Assy	1
	4 2269 38510	PCB, LED	1
D101	4 2029 72280	LED, SLT-25 (Forward)	1
D201	4 2029 72280	LED, SLT-25 (Reverse)	1

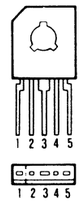
NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

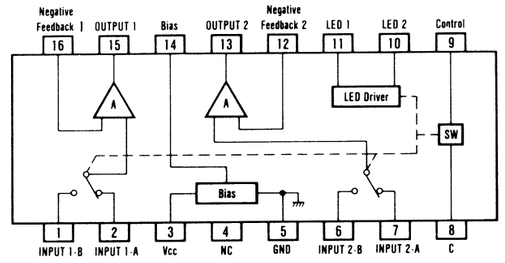
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SC2812		
TERMINAL NAME		
B → BASE C → COLLECTOR E → EMITTER		

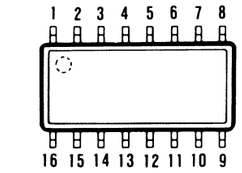
LA5522 FRONT/BOTTOM VIEW



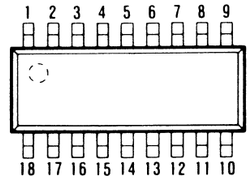
BA3404F BLOCK DIAGRAM



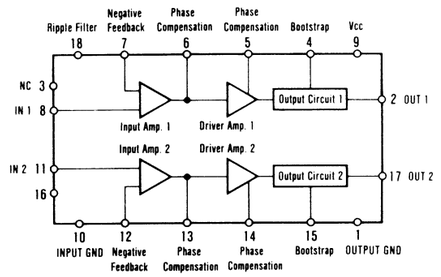
BA3404F BOTTOM VIEW



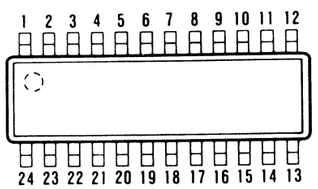
AN-7118 BOTTOM VIEW



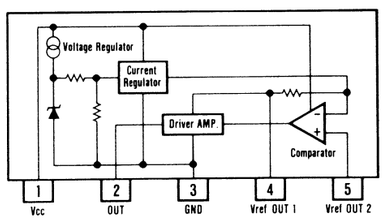
AN-7118 BLOCK DIAGRAM



BA1102F BOTTOM VIEW



LA5522 BLOCK DIAGRAM



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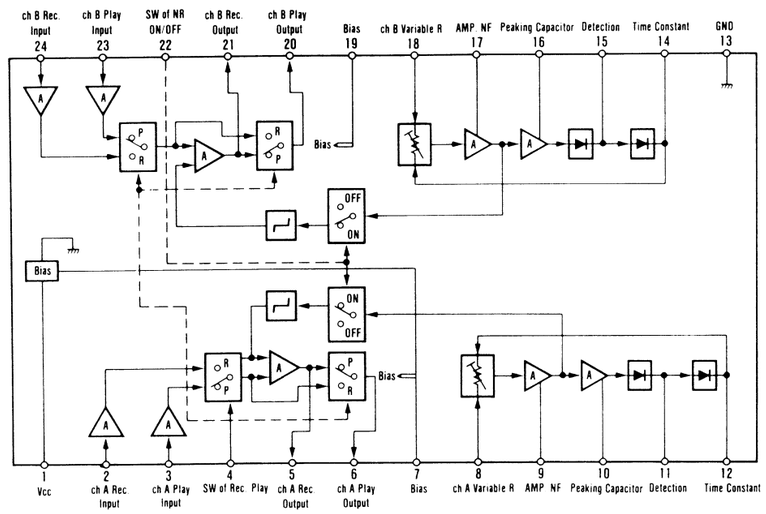
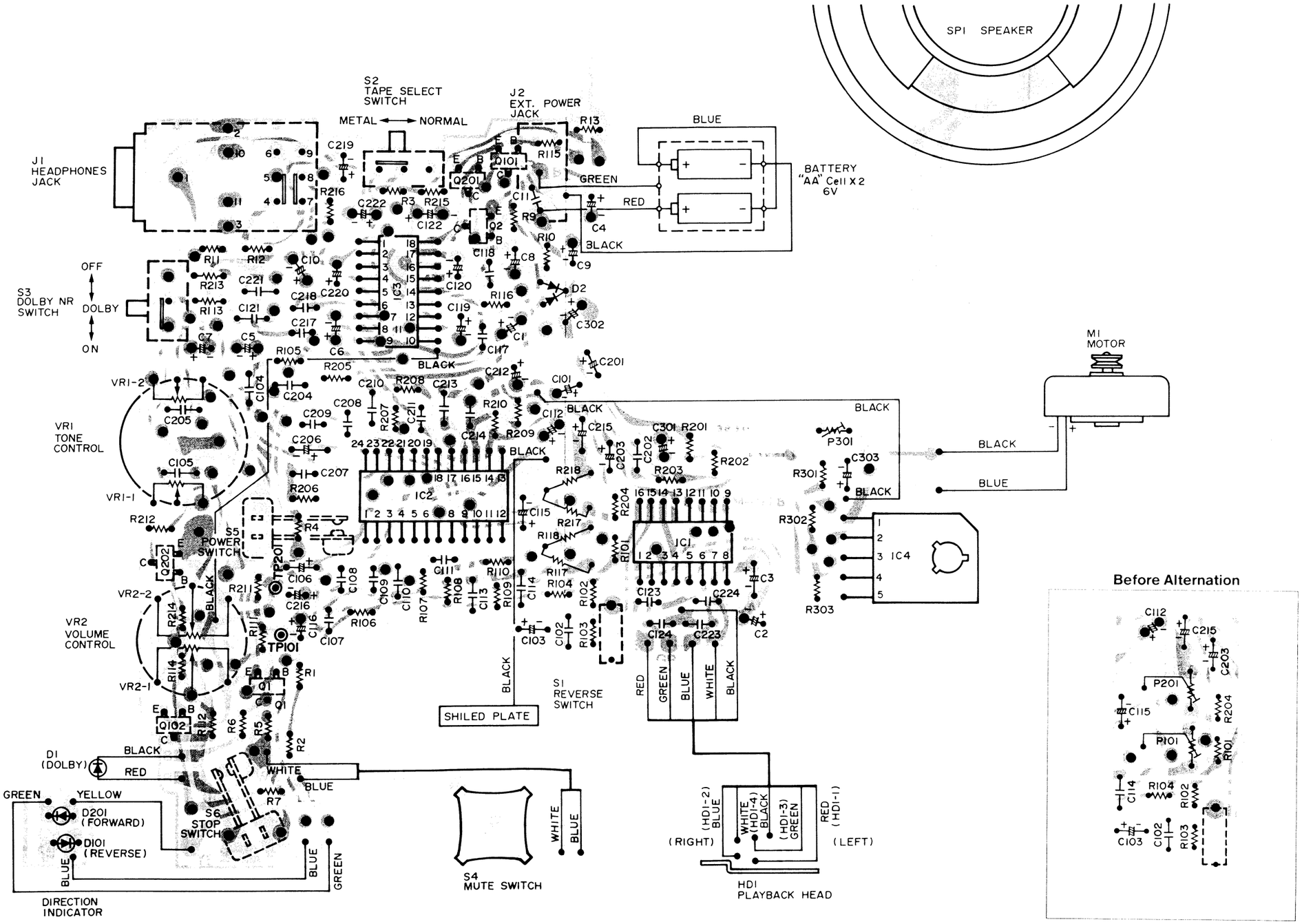
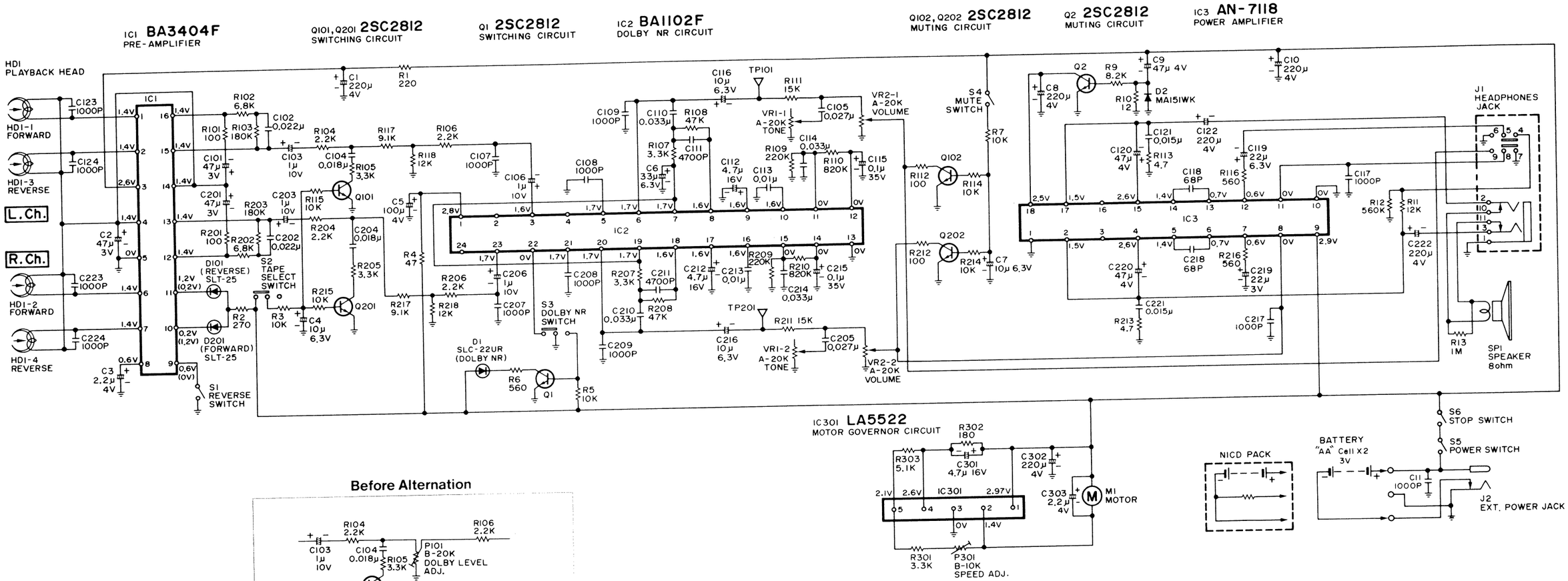


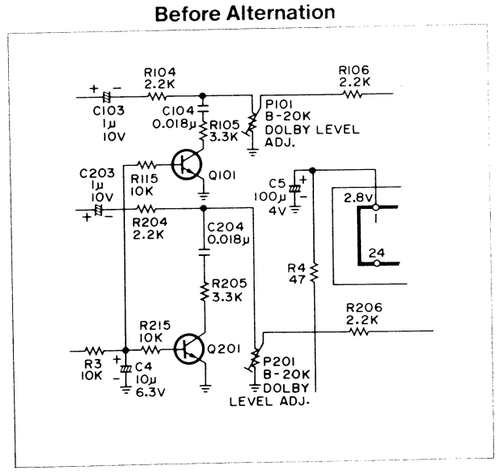
AMPLIFIER P.C.BOARD



SCHEMATIC DIAGRAM



Before Alternation



No.	Name	Position
S1	Reverse Switch	OFF
S2	Tape Select Switch	METAL
S3	DOLBY NR Switch	ON
S4	Mute Switch	OFF
S5	Power Switch	OFF
S6	Stop Switch	OFF